



Serial No. 10/602,286
60130-1705; 03MRA00130

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Bauman
Serial No.: 10/602,286
Filed: June 24, 2003
Examiner: Siconolfi, Robert
Group Art Unit: 3683
Title: DEVICE TO PROVIDE INITIAL POP-UP OF AN AUTOMOTIVE DECK
LID VIA A GAS SPRING

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF

Dear Sir:

Appellant submits this Appeal Brief pursuant to the Notice of Appeal filed January 14, 2005. Enclosed is a check for the appeal brief fee. Any additional fees or credits may be charged or applied to Deposit Account No. 50-1482 in the name of Carlson, Gaskey & Olds.

REAL PARTY IN INTEREST

The real party in interest is ArvinMeritor Technology, LLC, assignee of the present invention.

RELATED APPEALS AND INTERFERENCES

There are no prior or pending appeals, interferences or judicial proceedings related to this appeal, or which may directly affect or may be directly affected by, or have a bearing on, the Board's decision in this appeal.

STATUS OF CLAIMS

Claims 1-22 are pending and all have been rejected.

STATUS OF AMENDMENTS

All amendments have been entered.

SUMMARY OF CLAIMED SUBJECT MATTER

Vehicle tailgates and hatchbacks are supported by one or more gas springs mounted between the vehicle and the vehicle closure member to provide a counter balance force to reduce the amount of effort required to open the tailgate or hatchback. The gas spring also operates to hold the tailgate or hatchback in an open position. Initial movement of the tailgate or hatchback can be more difficult than movement once the tailgate or hatchback is in motion. This is true since the biasing forces exerted by the gas springs originates relatively close to the tailgate or hatchback hinge axis. The close proximity to the hinge axis reduces the amount of counter balance force available to assist in initial opening of the tailgate or hatchback.

The present invention is a support assembly for a vehicle closure member assembly that includes a simple arm pivotally supported on the vehicle opposite a hinge biased by a gas spring to move a tailgate or hatchback toward an initial pop-up opening position.

Referring to Figures 1 and 4, a vehicle closure assembly 10 includes a closure member 14 that is movable between open and closed positions and supported for this movement by a hinge assembly 18. A gas spring 27 includes a first segment 28 and a second segment 30. The first segment 28 is pivotally attached to the closure member 14 and the second segment 30 is pivotally attached to an arm 20. The arm 20 is in turn pivotally attached to the vehicle body 12 at a location opposite the hinge side of the vehicle closure member 14. The arm 20 includes first and second segments 24, 26. The gas spring 27 biases the arm 20 about a pivot point 22 such that the second segment 26 lifts the closure member 14 to an initial opening pop-up position 34 (Figure 2, Paragraph 14)

The gas spring 27 exerts a force linearly along an axis 40. The pivot point 22 is mounted on the vehicle a distance 44 from the axis 40 to bias rotation 46 of the arm 20 into the closure member 14. The distance 44 between the axis 40 and pivot point 22 provides a desired amount of biasing force against the closure member 14. (Figure 2, Paragraph 18).

The second segment 26 of the arm 20 includes an extension 32 (Figure 4) to further leverage the closure member 14 upward from the closed position. The extension 32 is disposed transversely from the second segment 26 relative to the arm 20 and into contact with the closure member 14. The extension 32 leverages the biasing force exerted by the gas spring 27 to lift the closure member 14. The extension segment 32 of the arm 20 can include a roller 50 to reduce the affects of friction on the interface between the arm 20 and the closure member 14. (Paragraph 20)

SUMMARY OF CLAIMS

Independent claim 1 requires that the support arm assembly for a vehicle closure member include an arm 20 having a first segment 24 and a second segment 26. Claim 1 further requires that the arm 20 be pivotally mounted about an arm pivot 22 and that a spring assembly 27 is pivotally attached to the first segment 24 at a spring pivot 30 and biases the second segment 26 of the arm 20 against a vehicle closure (Figure 1, paragraph 14).

Independent claim 11 recites a gas spring assembly 27 that includes a support segment 28 and a base segment 30. The support segment 28 is pivotally attached to a vehicle closure member 14. Claim 11 further requires an arm 20 having a first segment 24 and a second segment 26 and a pivot 24 disposed between the first segment 24 and the second segment 26. The first segment 24 of the arm 20 is attached to the base segment 30 of the gas spring 27 and the second segment 26 is biased against the vehicle closure member 14 (Figure 1, paragraph 14).

Independent claim 20 requires an arm 20 pivotally mountable about a pivot 22 and including a first segment 24 and a second segment 26. The first segment 24 extends in a first direction, and the second segment 26 extends in a second direction opposite the first direction.

The claim further requires that a spring assembly 27 is attached to the first segment 24 for biasing the second segment 26 against a vehicle closure member 14 (Figure 1, paragraph 14).

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

(1) Claims 1-22 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,679,841 to Taunay ("Taunay").

ARGUMENT

Obviousness Rejection Over Taunay

The rejections are all flawed for two main reasons. First, Claims 1-22 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Taunay. Examiner has rejected all the claims as being obvious over Taunay alone. Taunay discloses a pop-up mechanism for a tailgate of a vehicle. The Taunay device is part of a hinge for the tailgate and includes several links (9,12,15) attached to a plate (10) for providing a pop-up feature. Examiner argues that Taunay alone renders the claimed invention obvious. Examiner asserts that it is not necessary for Taunay to support the limitations. However, to establish *prima facia* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art.

Second, when it is necessary to select elements from different references in order to form the claimed invention, there must be some suggestion or motivation to make the selection. Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion, or incentive supporting the combination. The extent to which such suggestion must be explicit in, or referred from, the references, is decided on the facts of each application in light of the prior art and its relationship to the claimed invention. It is impermissible to engage in a hindsight reconstruction of the claimed invention, using appellant's structure as a template and selecting elements from the references to fill the gaps. The references themselves must provide some teaching whereby appellant's combination would have been obvious. All the claim limitation of this application are not taught or suggested by Taunay as will be described with regard to each claim below.

Claim 1

Claim 1 recites a support assembly that includes an arm including a first segment and a second segment pivotally mounted about a pivot, and a spring assembly pivotally attached to the first segment of the arm and biasing the second segment against the vehicle closure member.

As admitted by Examiner, Taunay fails to disclose the limitations required in claim 1. Instead, the Examiner states that modification of Taunay by mounting the plate (10) to the car body and the gas spring to the pivot (7) of the vehicle closure member renders claim 1 obvious. However, such a modification does not meet the limitation of a second segment biased against a vehicle closure member. Examiner has read the Taunay first lever (9) as meeting the limitation of an arm 20. However, the first lever (9) does not bias against the vehicle closure member as required by claim 1, but instead only biases a link (12) against an arm (15).

Claim 1 requires that a second segment be biased against the vehicle closure member. The Taunay “second segment” is read by Examiner by a line that extends between a pivot (19) and a pivot (13). This “second segment” in Taunay does not bias against either the vehicle closure member or the vehicle body. It is merely a link in a chain of links and as such, even accepting Examiner’s broad interpretation of the first lever (9), Taunay does not disclose or suggest the limitation of the second segment biased against the vehicle closure member.

Further, the Examiner’s interpretation of the Taunay structure is only possible through impressive hindsight reasoning using Appellants disclosure as a guide. Taunay includes the plate (10) that is mounted to a vehicle closure member (11), a first lever (9), a link (12) moved by the first lever (9), and an arm 15 moved by the link (12). There is no suggestion or motivation to use a single arm as is required by claim 1. An obviousness rejection requires some suggestion or motivation to make a proposed modification. That motivation must come from the prior art, not from Appellants own disclosure. The Examiner’s reading of the first lever (9) as including a second segment biased against a vehicle closure can only be supported by use of Applicant’s disclosure. The first lever (9) is merely one of three links utilized to provide a pop-up feature. It is only using Applicants disclosure as a guide that such an interpretation of Taunay

is possible. For these reasons Appellant requests reconsideration and withdrawal of the rejection over Taunay.

Claims 4, 13 and 22

Claims 4, 13 and 22 include the limitation of an extension portion extending transversely from the second segment of the arm. Taunay does not disclose or suggest an extension portion. As appreciated, each and every limitation of a claim must be disclosed or suggested in the prior art to support a *prima facia* case of obviousness. No such feature or suggestion is present in Taunay.

Claims 4,13 and 22 require the extension portion to extend from the second segment and into *contact* with the vehicle closure member. The second segment 19-13 of the first lever (9) does not *contact* the vehicle closure member and there is no suggestion or motivation present within Taunay to make the first lever (9) contact the vehicle closure member. The first lever (9) is one link connected with several other links to provide the pop-up feature. The Taunay device operates by having the first lever (9) bias the link (12) into the arm (15). Motivation or suggestion to modify Taunay according to the limitations in claims 4, 13, 22 is not present and could only be provided by use of Appellant's own disclosure. For these reasons, there is suggestion or motivation to support a *prima facia* case of obviousness regarding claims 4, 13, and 22.

Claims 5, 14 and 21

Claims 5, 14 and 21 require that the second segment is longer than the first segment. As defined by the Examiner, referring to Figure 2 of Taunay a first segment extends between pivots 19 and 8, and a second segment extends between pivots 19 and 13. (Office Action Mailed October 19, 2004, paragraph 3). Examiner goes on to state that the second segment (line between 19 and 13) is longer than the first segment (line between 8 and 19). An examination of Figure 2 in Taunay reveals that each moment arm is the same length. Further, the description in Taunay does not mention or address any length between the pivots (19,13 and 8). The suggestion or motivation must come from the prior art, and not Applicants disclosure. There is no suggestion or motivation to make the first segment longer than the second segment in Taunay.

Further, Examiner argues that the length of the arm is simply a design choice. However, there can be no suggestion or motivation if the prior art would teach away from the proposed modification. Further, if the proposed modification would destroy or degrade operation there would be no benefit, and without benefit there can be no suggestion or motivation. If the second segment (line between 19 and 13) of Taunay is longer than the first segment (line between 8 and 19), Taunay would not operate as intended. The spring (5) in Taunay provides a coupling force in the direction F on the first lever (9). The coupling force is a function of the force F and the distance from the pivot point (19). Movement of the pivot (8) toward the pivot (19) such that the first segment (line between 8 and 19) is shorter would decrease the coupling moment force relative to the coupling moment force caused by the second segment, and thereby reduce the pop-up force and performance of the Taunay device. Any shortening in length of the first segment relative to the second segment in Taunay will decrease the coupling force that pops up the vehicle hatch.

As the purpose of Taunay is to increase the lifting force on a vehicle lift gate, a modification resulting in a decrease in lifting force would provide no benefit and teach away from making that modification. There can be no suggestion or motivation to make a modification if that modification provides no benefit, would degrade operation and teach away from an intended purpose and operation of the reference. For these reasons, there is no suggestion or motivation to support the *prima facia* case of obviousness regarding claims 5,14, and 21.

Claims 8 and 17

Claims 8 and 17 include the limitation of a roller attached to the second segment of the arm. Taunay includes a roller attached to arms (15) and (12) but does not disclose or suggest attaching the roller to a second segment of the arm. Examiner reads the second segment limitation to be met by the line between pivots 19 and 13 on the first lever (9). The first lever (9) is a link between several other links and would not include a roller as it has a function of providing a connection for other links, not for contacting the vehicle or vehicle closure.

There must be some suggestion or motivation to attach a roller to the second segment (line between 19 and 13) of the first lever (9) within Taunay. Examiner has provided no such motivation or suggestion, and none exists. Further, such a modification would only be possible through the use of impermissible hindsight reasoning using Appellant's disclosure as a guide.

Claim 11

Claim 11 recites a gas spring assembly that includes an arm including a first segment and a second segment pivotally mounted about a pivot, and a spring assembly pivotally attached to the first segment of the arm and biasing the second segment against the vehicle closure member.

As discussed with regard to claim 1, the Examiner admits that Taunay fails to disclose the limitations required in claim 11 and states that modification of Taunay by reversing the plate (10) and the pivot (7) renders claim 11 obvious. However, such a modification does not meet the limitation of a second segment biased against a vehicle closure member. In Taunay, the first lever (9) does not engage the vehicle closure member, or the vehicle, but instead only biases the link (12) against another arm (15).

As discussed above with regard to Claim 1, the second segment is required to be biased against the vehicle closure member. The Taunay "*second segment*" as identified by Examiner does not bias against either the vehicle closure member or the vehicle body. As such, Taunay does not disclose or suggest the limitation of the second segment biased against the vehicle closure member.

Further, the Examiner's interpretation of the Taunay structure and the proposed reading of the structure is only possible through impermissible hindsight reasoning using Appellants disclosure as a guide. An obviousness rejection requires some suggestion or motivation to make a proposed modification. That motivation must come from the prior art, not from Appellants own disclosure.

Claim 18 and 19

Claim 18 requires the first segment and the second segment extend in opposing directions from a pivot. According to the Examiner the first segment (line between 19-8) and the second segment (line between 19 and 13) on the first lever (9) meet this limitation. (Taunay, Figure 2).

According to Examiner's own reading, the first segment and the second segment are not opposing, but extend radially in the same general direction only degrees apart. Examiner states in the Final response that the segments of arm 9 do extend in opposite directions. As seen in Figure 2, 13 is to the left of the pivot 19 and 18 is to the right. (Office action mailed October 19, 2004, section 4). However, pivots are points, and do not extend in any direction. However, a line or arm segment can extend. As defined by the Examiner, the first segment (line between 19 and 18) and the second segment (line between 19 and 13) does not meet or suggest this limitation.

Claim 19 depends from claim 11 and requires that the first segment extends from a pivot in a first direction and that the second segment extends from the pivot in a second direction that is opposite the first direction. Examiner states in an Advisory Action mailed December 30, 2004, that relative to the pivot point the segments go in directions that are 180 degrees opposite from each other. The segments also extend in a direction perpendicular to the first direction. It is not clear what features Examiner is referring to with this statement as Examiner has read the first segment as a line beginning from pivot 19 and extending to pivot 8, and the second segment as a line beginning from pivot 19 and extending to pivot 13. As is shown in Figure 2 of Tauney, the segments as defined by the Examiner do not meet, or suggest the limitation of extending in an opposing direction from a pivot point. Accordingly, this limitation is not disclosed or suggested by Taunay and the rejection to claims 18 and 19 should be overturned.

Claim 20

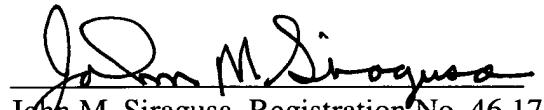
Claim 20 requires that the arm includes a first segment extending in a first direction and a second segment extending in a second direction from said pivot opposite said first direction. As discussed above with reference to claims 18 and 19, this limitation is not disclosed or suggested by the Taunay device. As is shown in Figure 2 of Taunay, the segments as defined by the Examiner do not meet, or suggest the limitation of extending in an opposing direction from a pivot point. Further, Examiner has not provided any explanation as to how Taunay may suggest this limitation. Accordingly, Appellant requests withdrawal of this rejection.

CONCLUSION

For the reasons set forth above, the rejection of all claims is improper and should be reversed. Appellant earnestly requests such an action.

Respectfully submitted,

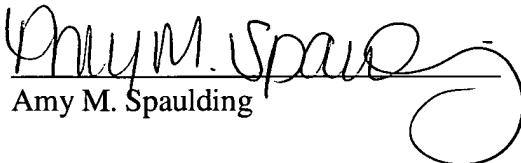
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Dated: March 14, 2005

CERTIFICATE OF MAIL

I hereby certify that the enclosed Appeal Brief is being deposited with the United States Postal Service as First Class Mail, postage prepaid, in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 14th day of March 14, 2005.


Amy M. Spaulding

CLAIMS APPENDIX

1. (PREVIOUSLY PRESENTED) A support assembly for a vehicle closure member comprising:

an arm pivotally mounted about an arm pivot and comprising a first segment and a second segment; and

a spring assembly pivotally attached to said first segment at a spring pivot and biasing said second segment against the vehicle closure member.

2. (PREVIOUSLY PRESENTED) The assembly as recited in claim 1, further comprising a hinge assembly to move the vehicle closure member between an open position and a closed position.

3. (PREVIOUSLY PRESENTED) The assembly as recited in claim 2, wherein said second segment biases the vehicle closure member toward said open position.

4. (PREVIOUSLY PRESENTED) The assembly as recited in claim 1, including an extension portion extending transversely from said second segment and into contact with the vehicle closure member.

5. (PREVIOUSLY PRESENTED) The assembly as recited in claim 1, wherein said second segment is longer than said first segment.

6. (PREVIOUSLY PRESENTED) The assembly as recited in claim 1, wherein said spring assembly comprises a support segment and a base segment disposed along a common axis and said arm pivot is spaced apart from said common axis.

7. (PREVIOUSLY PRESENTED) The assembly as recited in claim 6, wherein said pivot is spaced apart from said common axis a distance such that said first segment is biased away from the vehicle closure member and said second segment is biased upward against the vehicle closure member.

8. (PREVIOUSLY PRESENTED) The assembly as recited in claim 1, comprising a roller attached to said second segment for contacting the vehicle closure member.

9. (ORIGINAL) The assembly as recited in claim 1, wherein said spring assembly comprises a gas spring.

10. (ORIGINAL) The assembly as recited in claim 1, wherein said spring assembly comprises a pneumatic spring.

11. (PREVIOUSLY PRESENTED) A gas spring assembly for a vehicle closure member comprising:

a gas spring comprising a support segment and a base segment, said support segment pivotally attachable to the vehicle closure member; and

an arm comprising a first segment and a second segment and a pivot disposed therebetween, said first segment pivotally attached to said base segment and said second segment positioned to be biased by said gas spring against the vehicle closure member.

12. (PREVIOUSLY PRESENTED) The assembly as recited in claim 11, wherein said second segment is positioned to bias the vehicle closure member toward an open position.

13. (PREVIOUSLY PRESENTED) The assembly as recited in claim 11, including an extension portion extending transversely from said second segment to contact the vehicle closure member when the assembly is attached to the vehicle closure member.

14. (PREVIOUSLY PRESENTED) The assembly as recited in claim 11, wherein said second segment is longer than said first segment.

15. (PREVIOUSLY PRESENTED) The assembly as recited in claim 11, wherein said support segment and base segment are disposed along a common axis and said pivot is spaced apart from said common axis.

16. (PREVIOUSLY PRESENTED) The assembly as recited in claim 15, wherein said pivot is spaced apart from said common axis a distance such that said first segment will be biased downward and said second segment will be biased upward against the vehicle closure member when the assembly is attached on a vehicle closure member.

17. (PREVIOUSLY PRESENTED) The assembly as recited in claim 11, comprising a roller attached to said second segment for contacting the vehicle closure member when the assembly is attached to a vehicle closure member.

18. (PREVIOUSLY PRESENTED) The assembly as recited in claim 11, wherein said first segment and said second segment extend in opposing directions from said pivot.

19. (PREVIOUSLY PRESENTED) The assembly as recited in claim 1, wherein said first segment extends from said pivot in a first direction and said second segment extends from said pivot in a second direction opposite said first direction.

20. (PREVIOUSLY PRESENTED) A support assembly for a vehicle closure member comprising:

an arm pivotally mountable about a pivot, said arm including a first segment extending in a first direction from said pivot and a second segment extending in a second direction from said pivot opposite said first direction; and

a spring assembly pivotally attached to said first segment for biasing said second segment against the vehicle closure member when the support assembly is attached to a vehicle closure member.

21. (PREVIOUSLY PRESENTED) The assembly as recited in claim 20, wherein said first segment includes a length smaller than a length of said second segment.

22. (PREVIOUSLY PRESENTED) The assembly as recited in claim 20, including an extension portion extending transversely from said second segment.